


PATENT

MACK and GISH
Application No.: 09/642,034
Page 4

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at .

Respectfully submitted,


Kevin L. Bastian
Reg. No. 34,774

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, California 94111-3834
Tel: 415-576-0200
Fax: (415) 576-0300
KLB:dmw
SF 1386221 v1

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Paragraph beginning at line 2 of page 5 has been amended as follows:

Figure 1 shows an embodiment of a nucleic acid (mRNA) which includes a sequence which encodes a breast cancer protein provided herein, BCR4 (SEQ ID NO:1). The start (ATG) and stop (TAG) codons are underlined. This sequence is similar to the published sequence for human LIV-1, however the present sequence includes an additional 18 base sequence (boxed GATCATCACTCTCACCAT; SEQ ID NO:2) not found in the published sequence for LIV-1. Also, BCR4 contains two additional thymine residues, indicated at the ends of the boxed sequence TTTCCATATTTGAACATAAAATCGTGT (SEQ ID NO:3) which are not found in the published sequence for human LIV-1.

Paragraph beginning at line 11 of page 5 has been amended as follows:

Figure 2 shows an embodiment of an open reading frame of a nucleic acid encoding BCR4 (SEQ ID NO:4), wherein the start (ATG) and stop (TAG) codons are underlined. Sequences distinguishing BCR4 from the published sequence for human LIV-1 are boxed as in figure 1.

Paragraph beginning at line 14 of page 5 has been amended as follows:

Figure 3 shows an embodiment of an amino acid sequence of BCR4 (SEQ ID NO:5). The signal peptide is underlined and putative transmembrane domains are shaded. The amino acid sequence is similar to the published sequence for human LIV-1, but differs by the sequences indicated with boxes. The sequence HDHSH (SEQ ID NO:6) results

MACK and GISH
Application No.: 09/642,034
Page 6

from the additional 18 base sequence of the mRNA. The sequence at the carboxy terminus differs from the [published sequence for LIV-1 polypeptide, due to a shift in the reading frame resulting from the two additional thymine residues of BCR4 not found in the published LIV-1 nucleic acid sequence.

Paragraph beginning at line 7 of page 12 has been amended as follows:

The extracellular domains of transmembrane proteins are diverse; however, conserved motifs are found repeatedly among various extracellular domains. Conserved structure and/or functions have been ascribed to different extracellular motifs. For example, cytokine receptors are characterized by a cluster of cysteines and a WSXWS (SEQ ID NO:7) (W= tryptophan, S= serine, X=any amino acid) motif. Immunoglobulin-like domains are highly conserved. Mucin-like domains may be involved in cell adhesion and leucine-rich repeats participate in protein-protein interactions.